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JUL 1 2002

TECH CENTER 1600/2900

SEQUENCE LISTING

<110> GOLD, DANIEL P.
SHOPES, ROBERT J.

<120> METHOD AND COMPOSITION FOR ALTERING A B CELL MEDIATED
PATHOLOGY

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<140> 09/927,121

<141> 2001-08-10

<160> 93

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| catgtaactc | gccttgatcg | ttgggaaccg | gagctgaatg | aagccatacc | aaacgacgag | 7020 |
| cgtgacacca | cgatgcctgt | agcaatggca | acaacgttgc | gcaaaactatt | aactggcgaa | 7080 |
| ctacttactc | tagcttcccg | gcaacaatta | atagactgga | tgagggcgga | taaagttgca | 7140 |
| ggaccacttc | tgcgctcggc | ccttccggct | ggctggttta | ttgctgataa | atctggagcc | 7200 |
| ggtagacgtg | ggtctcgcgg | tatcattgca | gcactggggc | cagatggtaa | gccctcccgt | 7260 |
| atcgtagtta | tctacacgac | ggggagtcag | gcaactatgg | atgaacgaaa | tagacagatc | 7320 |
| gctgagatag | gtgcctcact | gattaagcat | tggttaactgt | cagaccaagt | ttactcatat | 7380 |
| atactttaga | ttgatTTaaa | acttcatttt | taatttaaaa | ggatctaggt | gaagatcctt | 7440 |
| tttgataatc | tcatgaccaa | aatcccttaa | cgtgagtttt | cgttccactg | agcgctcagac | 7500 |
| cccgtagaaa | agatcaaagg | atcttcttga | gatccttttt | ttctgcgcgt | aatctgctgc | 7560 |
| ttgcaaacaa | aaaaaccacc | gctaccagcg | gtggtttggt | tgccggatca | agagctacca | 7620 |
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| gactcaagac | gatagttacc | ggataaggcg | cagcggtcgg | gctgaacggg | gggttcgtgc | 7860 |
| acacagccca | gcttggagcg | aacgacctac | accgaactga | gatacctaca | gcgtgagcat | 7920 |
| tgagaaagcg | ccacgcttcc | cgaagggaga | aaggcggaca | ggtatccggt | aagcggcagg | 7980 |
| gtcggaacag | gagagcgcac | gagggagctt | ccagggggaa | acgcctggta | tctttatagt | 8040 |
| cctgtcgggt | ttcgccacct | ctgacttgag | cgtegatatt | tgtgatgctc | gtcagggggg | 8100 |
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| cattaatgca | ggttaacctg | gcttatcgaa | attaatacga | ctcactatag | ggagaccggc | 8400 |
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<211> 37
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<210> 22
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<400> 22
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<400> 23
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<210> 24

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<400> 26
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 aagaacatga aacacctgtg gttcttc 27

<210> 44
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<400> 44
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<210> 45
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<220>
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<400> 45
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<210> 49
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<400> 49
gcagaccag gtcttcattt ctc 23

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<212> DNA
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<210> 53
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<400> 53

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21

<210> 54

<211> 23

<212> DNA

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<400> 54

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<210> 55

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<210> 56

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

<400> 56

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<210> 57

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<212> DNA

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 <210> 60
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<400> 63
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<400> 64
tgcttatgga tcaggagtgg attc 24

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<210> 66
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<400> 66
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ggagtctggg 70

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<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 69
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<400> 70
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<400> 71
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<400> 72

gaagtcactt atgagacaca ccag

24

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<400> 76

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<223> Description of Artificial Sequence: Primer

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<223> Description of Artificial Sequence: Primer

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<400> 81
gtgttatcaa agg

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<210> 82
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<400> 83
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<213> Homo sapiens

<400> 87
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<210> 88
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<400> 88
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DNA sequence

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| | | | | | | |
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| aagaggttta | tactaaactg | ttacattgca | aacgtggttt | cggtgtccaa | gtgtgaaaac | 1200 |
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| ttgctttaat | tattaaattt | atataatcaa | tgaatttggg | atcgctcggt | ttgtacaata | 1860 |
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DNA sequence

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| cgtcggcctc | caagtggcaa | tattggcaaa | ttcgaaaata | tatacagttg | ggttgtttgc | 180 |
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| tagtgataca | ttgactcgac | gtaaacacgt | taaataaagc | tagcttggac | atatttaaca | 5040 |
| tcgggcgtgt | tagctttatt | agggcgatta | tcgtcgctgt | cccaaccctc | gtcggttagaa | 5100 |
| gttgcttccg | aagacgattt | tgccatagcc | acacgacgcc | tattaattgt | gtcggctaac | 5160 |
| acgtccgcga | tcaaatttgt | agttgagctt | tttggaaatta | tttctgattg | cgggcgtttt | 5220 |

| | | | | | | |
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| tgggcggggt | tcaatctaac | tgtgcccgat | tttaattcag | acaacacggt | agaaagcgat | 5280 |
| ggtgcaggcg | gtggtaacat | ttcagacggc | aaatctacta | atggcggcg | tgggtggagct | 5340 |
| gatgataaat | ctaccatcgg | tggaggcgca | ggcggggctg | gcggcggagg | cggaggcgga | 5400 |
| ggtggtggcg | gtgatgcaga | cggcggttta | ggctcaaatg | tctcttttag | caacacagtc | 5460 |
| ggcacctcaa | ctattgtact | ggtttcgggc | gccgtttttg | gtttgaccgg | tctgagacga | 5520 |
| gtgcgatttt | tttcgtttct | aatagcttcc | aacaattggt | gtctgtcgtc | taaaggtgca | 5580 |
| gcgggttgag | gttcgcgtcg | cattggtgga | gcgggcggca | attcagacat | cgatggtggt | 5640 |
| ggtggtggtg | gaggcgctgg | aatgttaggc | acgggagaag | gtggtggcg | cgggtgccgc | 5700 |
| ggtataat | gttctggttt | agtttggtcg | cgcacgattg | tgggcaccgg | cgcaggcgcc | 5760 |
| gctggctgca | caacggaagg | tcgtctgctt | cgaggcagcg | cttggggtgg | tggcaattca | 5820 |
| atattataat | tggaatacaa | atcgtaaaaa | tctgctataa | gcattgtaat | ttcgctatcg | 5880 |
| tttaccgtgc | cgatatttaa | caaccgctca | atgtaagcaa | ttgtattgta | aagagattgt | 5940 |
| ctcaagctcc | gcacgccgat | aacaagcctt | ttcattttta | ctacagcatt | gtagtggcga | 6000 |
| gacacttcgc | tgtcgtcgac | tcgagttcta | tagtgtcacc | taaatcgat | gtgtatgata | 6060 |
| cataaggtta | tgtattaatt | gtagccgcgt | tctaaccgaca | atatgtccat | atggtgcact | 6120 |
| ctcagtacaa | tctgctctga | tgccgcatag | ttaagccagc | cccgcacccc | gccaacaccc | 6180 |
| gctgacgcgc | cctgacgggc | ttgtctgctc | ccggcatccg | cttacagaca | agctgtgacc | 6240 |
| gtctccggga | gctgcatgtg | tcagaggttt | tcaccgtcat | caccgaaacg | cgcgagagga | 6300 |
| aagggcctcg | tgatacgctc | atttttatag | gttaatgtca | tgataataat | ggtttcttag | 6360 |
| acgtcaggtg | gcacttttcg | gggaaatgtg | cgcggaaccc | ctattttgtt | atttttctaa | 6420 |
| atacattcaa | atatgtatcc | gctcatgaga | caataaccct | gataaatgct | tcaataatat | 6480 |
| tgaaaaagga | agagtatgag | tattcaacat | ttcgtgtcgc | cccttattcc | cttttttgcg | 6540 |
| gcattttgcc | ttcctgtttt | tgtcaccca | gaaacgctgg | tgaaagttaa | agatgctgaa | 6600 |
| gatcagttgg | gtgcacgagt | gggttacatc | gaactggatc | tcaacagcgg | taagatcctt | 6660 |
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| ggcgcggtat | tatcccgat | tgacgcgggg | caagagcaac | tcggtcgccg | catacactat | 6780 |
| tctcagaatg | acttggttga | gtactcacca | gtcacagaaa | agcatcttac | ggatggcatg | 6840 |
| acagtaagag | aattatgcag | tgtgtccata | accatgagtg | ataaactgc | ggccaactta | 6900 |
| cttctgacaa | cgatcggagg | accgaaggag | ctaaccgctt | ttttgcacaa | catgggggat | 6960 |
| catgtaactc | gccttgatcg | ttgggaaccg | gagctgaatg | aagccatacc | aaacgacgag | 7020 |
| cgtgacacca | cgatgcctgt | agcaatggca | acaacgttgc | gcaaactatt | aactggcgaa | 7080 |
| ctacttactc | tagcttcccg | gcaacaatta | atagactgga | tggaggcgga | taaagtgtgca | 7140 |
| ggaccacttc | tgcgtcgggc | ccttcgggct | ggctggttta | ttgctgataa | atctggagcc | 7200 |
| ggtgagcgtg | ggtctcggcg | tatcattgca | gcactggggc | cagatggtaa | gccctccgct | 7260 |
| atcgtagtta | tctacacgac | ggggagtcag | gcaactatgg | atgaacgaaa | tagacagatc | 7320 |
| gctgagatag | gtgcctcact | gattaagcat | tggtaaactgt | cagaccaagt | ttactcatat | 7380 |
| atactttaga | ttgattttaa | acttcatttt | taatttaaaa | ggatctaggt | gaagatcctt | 7440 |
| tttgataatc | tcatgaccaa | aatcccttaa | cgtgagtttt | cgttccactg | agcgtcagac | 7500 |
| cccgtagaaa | agatcaaagg | atcttcttga | gacccctttt | ttctgcgcgt | aatctgctgc | 7560 |
| ttgcaaacia | aaaaaccacc | gctaccagcg | gtggtttgtt | tgccggatca | agagctacca | 7620 |
| actctttttc | cgaaggtaac | tggtttcagc | agagcgcaga | taccaaatac | tgtccttcta | 7680 |
| gtgtagccgt | agttaggcca | ccacttcaag | aactctgtag | caccgcctac | atacctcgct | 7740 |
| ctgctaatac | tgttaccagt | ggctgctgcc | agtggcgata | agtcgtgtct | taccgggttg | 7800 |
| gactcaagac | gatagttacc | ggataaggcg | cagcggtcgg | gctgaacggg | gggttcgtgc | 7860 |
| acacagccca | gcttgagcgc | aacgacctac | accgaactga | gatacctaca | gcgtgagcat | 7920 |
| tgagaaagcg | ccacgcttcc | cgaagggaga | aaggcggaca | ggtatccggg | aagcggcagg | 7980 |
| gtcggaaacag | gagagcgcac | gagggagctt | ccagggggaa | acgcctggta | tctttatagt | 8040 |
| cctgtcgggt | ttcgccacct | ctgacttgag | cgctcgatttt | tgtgatgctc | gtcagggggg | 8100 |
| cggagcctat | ggaaaaacgc | cagcaacgcg | gccttttttac | ggttcctggc | cttttgctgg | 8160 |
| ccttttgctc | acatgttctt | tcctgcggtt | tcctctgatt | ctgtggataa | ccgtattacc | 8220 |
| gcctttgagt | gagctgatac | cgctcgccgc | agccgaacga | ccgagcgcag | cgagtcagtg | 8280 |
| agcgaggaag | cggagagcgc | ccaataacgc | aaaccgcctc | tccccgcgcg | ttggccgatt | 8340 |
| cattaatgca | ggttaacctg | gcttatcgaa | attaatacga | ctcactatag | ggagaccggc | 8400 |
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<220>
<223> Description of Artificial Sequence: Primer

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<210> 9
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 9
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<210> 10
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 10
ggaagtagtc cttgaccagg cag 23

<210> 11
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 11
gggaaaaggg ttgggcccgga tgcac 25

<210> 12
<211> 26
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 12
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<210> 13
<211> 34
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

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34

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<400> 14
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<210> 15
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<400> 15
actagtgcaa cggtgactaa gaatttcattg cggccgc

37

<210> 16
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

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gcggccgcgt gaaattctta gtcaacgttg cactagt

37

<210> 17
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 17
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<210> 18

<211> 60
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<220>
<223> Description of Artificial Sequence: Primer

<400> 18
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<210> 19
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19
tgtgactagt atgtatcggc ccatcgggtct tccccct

37

<210> 20
<211> 35
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 20
tttctagact attatttacc cggagacagg gagag

35

<210> 21
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

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43

<210> 22
<211> 36
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<220>
<223> Description of Artificial Sequence: Primer

<400> 22
cccaagcttc tattaacact ctcccctggt gaagct

36

<210> 23

<400> 23
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<210> 24

<400> 24
000

<210> 25

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

<400> 25
aaatgataac catctcgc

18

<210> 26

<211> 24

<212> DNA

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<223> Description of Artificial Sequence: Primer

<400> 26
tttactgttt tcgtaacagt ttg

24

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<223> Description of Artificial Sequence: Primer

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22

<210> 28

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<223> Description of Artificial Sequence: Primer

<400> 28
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<210> 29
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<220>
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<400> 29
 caacaacgca cagaatctag 20

<210> 30
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 <212> DNA
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<220>
 <223> Description of Artificial Sequence: Primer

<400> 30
 gggaccttta attcaaccaca acac 24

<210> 31
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<220>
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<400> 31
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<210> 32
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 <212> DNA
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<220>
 <223> Description of Artificial Sequence: Primer

<400> 32
 ggaagtagtc cttgaccagg cag 23

<210> 33
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<220>
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 <400> 33
 ctgagttcca cgacaccgtc ac 22

 <210> 34
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 <400> 34
 tagagtcctg aggactgtag gac 23

 <210> 35
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 <210> 36
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 <400> 36
 tttactgttt tcgtaacagt ttg 24

 <210> 37
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 <400> 37
 ggtcgttaac aatggggaag ctg 23

 <210> 38

<211> 22
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<223> Description of Artificial Sequence: Primer

<400> 38

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22

<210> 39

<211> 25

<212> DNA

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<223> Description of Artificial Sequence: Primer

<400> 39

accatggaca tactttgttc cacgc

25

<210> 40

<211> 25

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

<400> 40

accatggaca cactttgctc cacgc

25

<210> 41

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 41

accatggagt ttgggctgag ctg

23

<210> 42

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 42

accatggaac tggggctccg ctg

23

<210> 43
<211> 27
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<223> Description of Artificial Sequence: Primer

<400> 43
aagaacatga aacacctgtg gttcttc

27

<210> 44
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<220>
<223> Description of Artificial Sequence: Primer

<400> 44
atcatgggggt caaccgccat cct

23

<210> 45
<211> 24
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<220>
<223> Description of Artificial Sequence: Primer

<400> 45
acaatgtctg tctccttcct catc

24

<210> 46
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<220>
<223> Description of Artificial Sequence: Primer

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acatgagggt ccccgctcag c

21

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<211> 22
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

22

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tcagctcctg gggctgctaa tg

<210> 48
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

22

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cttctctctg ctactctggc tc

<210> 49
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<220>
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23

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gcagaccag gtcttcattt ctc

<210> 50
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<220>
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22

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<210> 51
<211> 22
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22

<400> 51
ggtttctgct gctctgggtt cc

<210> 52
<211> 21
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<220>
<223> Description of Artificial Sequence: Primer

<400> 52 21
tcactgyrca gggtcctggg c

<210> 53
<211> 21
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 53 21
actcaggrca caggrtcctg g

<210> 54
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 54 23
ttgcttactg cacaggatcc gtg

<210> 55
<211> 24
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 55 24
cttgctcact ttacagggttc tgtg

<210> 56
<211> 24
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 56 24
ctcactcttt gcatagggttc tgtg

<210> 57

<211> 24
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

24

<400> 57
tcaacctcta cacaggctct attg

<210> 58
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

24

<400> 58
ctcactctct gcacagkctc tgwg

<210> 59
<211> 24
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<220>
<223> Description of Artificial Sequence: Primer

24

<400> 59
cattttctcc acaggtctct gtgc

<210> 60
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

22

<400> 60
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<210> 61
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

22

<400> 61
ctctcactgc acaggttccc tc

<210> 62
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 62
cgctcactgc acaggttctt gg

22

<210> 63
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 63
cttgctgccc aggtccaat tc

22

<210> 64
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 64
tgcttatgga tcaggagtgg attc

24

<210> 65
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 65
cagtctcctc acagggtccc tc

22

<210> 66
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 66
tcactcactc tgcagtgta gtg

23

<210> 67
<211> 70
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 67
cagatcacta gtttttatgg tcgtgtacat ttcttacatc tatgcggaga tgaaattggt 60
ggagtctggg 70

<210> 68
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 68
ctgagtaggc ctgaggctac agctctccct gggcgaagtt gtgttgactc agtctcc 57

<210> 69
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 69
ctgagttcca cgacaccgtc ac 22

<210> 70
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 70
gggaattctc acaggagacg agg 23

<210> 71
<211> 22
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

22

<400> 71

ttggagggcg ttatccacct tc

<210> 72

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

24

<400> 72

gaagtcactt atgagacaca ccag

<210> 73

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

23

<400> 73

ggaagtagtc cttgaccagg cag

<210> 74

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

25

<400> 74

gggaaaaggg ttgggcccga tgcac

<210> 75

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

25

<400> 75

gggaaaaggg ttgggcccga tgcac

<210> 76
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 76
ggaacagagt gacactgggt gcagccttgg gctg 34

<210> 77
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 77
tgccgtcggc aggaggtatt tcattatgac tgtctccttg ctattatgaa cattctgtag 60
ggcca 66

<210> 78
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 78
gtcagcccaa ggctgcaccc agtgtcactc tgttcc 36

<210> 79
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 79
cgtatcaagc ttttactatg aacattctgt aggggccac 39

<210> 80
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 80
cctttgataa caccca

16

<210> 81
<211> 13
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<220>
<223> Description of Artificial Sequence: Primer

<400> 81
gtgttatcaa agg

13

<210> 82
<211> 17
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 82
ctagtttgat aagggcc

17

<210> 83
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 83
cttatcaaaa

9

<210> 84
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 84
cctttgataa caccaa

16

<210> 85

<400> 85
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<210> 86
<211> 371
<212> DNA
<213> Homo sapiens

<400> 86
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tcctgtgtgg cctctagatt cacctttaga acgttttgga tgacctgggt cgcgcaactt 120
ccagggaagg ggctggagtg ggtggccaat ataaatcaag atggcagtc gacgtatcat 180
gcggactctg taaagggccg atttaccatc tccagagaca acggcaggaa ctccctattt 240
ttacaaatga caagtctgag agtcgcggac acggctatat attactgtgc gactaatgaa 300
acgtccagtg gcctggactg ctggggccaa ggaaccctgg tcactgtctc ctcagcttcc 360
accaagggcc c 371

<210> 87
<211> 349
<212> DNA
<213> Homo sapiens

<400> 87
gaaatcgtgt tgacacagtc tccagccacc ctgtcttcgt ctccaggaga cagagtcgcc 60
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B'
cosel'd
